

## **REMARKS**

Claims 1 and 4-13 are pending in this case. Of these, claims 1 and 13 are rejected and claims 4-12 deemed withdrawn.

### ***Election Requirement***

Relative to the election requirement, the examiner indicates that Applicant's traversal is found unpersuasive "because while the claims do share a common technical feature, it is not considered to be a special technical feature as it is known in the art as taught by Kustov et al." Applicant respectfully disagrees, including for the reasons specified below. Furthermore, Applicant has hereby amended claim 1 to particularize a common technical feature shared by the invention of Groups I-VI, and which feature is not disclosed by Kutsov et al.

### ***Substitute Specification***

A substitute specification in compliance with the requirements of 37 CFR 1.52 was previously submitted in this case with Applicant's preliminary amendment of 26 May 2006, and is now of record in this case, as reflected in the USPTO's PAIR database.

### ***Claim Rejections Under 35 USC Section 112***

Claim 13 has been amended to recite dependency from claim 1, rather than previously canceled claim 2. By this amendment, the rejection under 35 USC Section 112, second paragraph, is respectfully believed to have been traversed.

### ***Claim Rejections Under 35 USC Section 102***

Claims 1 and 13 stand rejected under 35 USC Section 102(b) as being anticipated by the disclosure of Kutsoz et al., USPN 6388145. More particularly, it is the examiner's position that that reference discloses "a ZSM-5 zeolite that is modified by the impregnation with zinc oxide forming a nanocomposite." Official Action, p. 4. As to UV

resistance, the examiner considers such property to be inherent in the material taught by Kutsov et al. Respectfully, Applicant disagrees for at least the reasons that Kutsov et al. teach nothing more than a method for the oxidation of benzene and/or toluene to phenol and/or cresols using a zeolite as a catalyst. The following example from Kutsov et al. is instructive:

*10 grams of HZSM-5 zeolite are calcined at 900°C in a flow of air for 3 hours and are modified by being impregnated to the zeolite's moisture-holding capacity with an aqueous solution of 1N zinc nitrate. The amount of zinc nitrate added amounts to 2 wt % zinc oxide, obtained on decomposition. The resulting zeolite is then activated at 780°C for 2 hours to convert the nitrate to zinc oxide in the zeolite channels. 1 gram of catalyst with 2% ZnO/HZSM-5 (Si/Al=21), particle size 0.2-0.5 mm, is mixed with 1 gram of quartz of the same particle size and placed in a quartz or steel reactor, i.d. 7 mm. Prior to reaction, the catalyst is activated in an air flow (60 ml/min) at a temperature of 450°C for 1 h. The reaction is run under the following conditions:  $T = 450^{\circ}\text{C}$ ,  $\text{N}_2\text{O}:\text{C}_6\text{H}_6 = 1:1$ , space velocity of benzene  $V=0.3\text{ h}^{-1}$ . Col. 3, lines 4-18.*

This is quite distinct from the invention of Applicant's claims, which are directed not to a catalyst in the preparation of phenols and cresols, but rather to a UV-resistant material comprising a molecular sieve-based, host-guest nano-composite. Consistent with the nature of the Kutsov et al. disclosure, there is, unsurprisingly, no mention whatsoever of the preparation of nanocomposites in that reference.

Furthermore, and likewise consistent with the nature of the Kutsov et al. disclosure, there is no teaching in that reference of Applicant's claimed (by the instant amendment) host-guest nano-composite wherein the guest material is directional with high-order in microscopic ordered porous channels of the host material by the quantum confinement effect, which feature is distinctive of a nano-scale material such as that of the instant invention.

In view of the foregoing, Applicant respectfully submits that the Kutsov et al. reference is not anticipatory of any of the claims of this case. Accordingly, prompt allowance of this case is respectfully solicited.

Of course, the examiner is invited to contact Applicant's undersigned counsel at (734) 213-3435 if he should have any questions respecting this paper, or if a telephone interview might otherwise help to expedite the prosecution of this case.

Respectfully submitted,

Dated: October 2, 2009



Christopher A. Mitchell  
Registration No. 40729  
Butzel Long  
350 S. Main Street, Ste. 300  
Ann Arbor, MI 48104  
Tel. (734) 213-3435  
Fax (734) 995-1777